

DEPARTMENT OF THE INTERIOR

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Reclassification of the Alabama Cavefish from Threatened to Endangered

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: This rule reclassifies the Alabama cavefish, *Speoplatyrhinus poulsoni*, from threatened or endangered under the authority of the Endangered Species Act of 1973, as amended. The critical habitat designation remains unchanged. The Alabama cavefish is known only from Key Cave in Lauderdale County, Alabama. A hydrological survey for a proposed solid waste landfill determined an existing sewage sludge disposal operation is within the recharge area of Key Cave (Aley 1986). The land immediately above and around Key Cave has numerous sinkholes and water collecting depressions and is in agricultural row-crops. The application of pesticides to these crops may impact the fauna in Key Cave.

This determination increases the protection provided by the Endangered Species Act of 1973 (Act), as amended.

EFFECTIVE DATE: October 28, 1988.

ADDRESS: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Jackson Field Office, U.S. Fish and Wildlife Service, Jackson Mall Office Center, Suite 316, 300 Woodrow Wilson Avenue, Jackson, MS 39213.

FOR FURTHER INFORMATION CONTACT: James H. Stewart at the above address (601/965-4900, FTS 490-4900).

SUPPLEMENTARY INFORMATION:**Background**

The Alabama cavefish was described by J.E. Cooper and R.A. Kuehne in 1974. *Speoplatyrhinus* is a monotypic genus known from only Key Cave, Lauderdale County, Alabama. It was first collected in 1967 by Cooper (Cooper and Kuehne 1974). Only nine Alabama cavefish in total are known to have been collected. The population in Key Cave is estimated at fewer than 100 individuals by Cooper (USFWS 1985). The largest number of cavefish ever observed on a single visit to Key Cave was 10 individuals.

The Alabama cavefish lacks externally visible eyes and pigmentation. Like all other members of the cavefish family, it has a jugular vent and a large branchial cavity, probably

for oral incubation of eggs. Pelvic fins are absent and the head is elongated and flattened. The typical length is just less than 3 inches (about 7 centimeters) (Cooper and Kuehne 1974).

The Service initially listed the Alabama cavefish as a threatened species and designated Key Cave as critical habitat on October 11, 1977 (42 FR 45526). Since the initial listing, the Service funded a survey of caves in Lauderdale and Colbert Counties, Alabama in 1985 and a follow-up survey of three caves in 1986 in an effort to locate other populations of Alabama cavefish. This project studied 120 caves, 27 of which were surveyed in 1985 (Cobb 1985). The remaining caves were not field surveyed because earlier surveys had found southern cavefish or no fauna or determined that permanent water was not present. Southern cavefish (*Typhlichthys subterraneus*) and Alabama cavefish are not known to co-exist, possibly because of competition for food and space. In the 1985 survey, three caves were selected for further survey in 1986 because of habitat present or the sighting of a cavefish. The 1986 survey did not capture any cavefish, but its observations further strengthened the probability these are southern cavefish (Cobb 1986). The southern cavefish, *Typhlichthys subterraneus*, occurs to the east and south of Key Cave and probably also to the north (Cobb 1985, 1986).

The type locality of the Alabama cavefish is situated in the Warsaw component of Tusculumbia limestone, which is known to contain caves only in the western portion of Lauderdale County. Geologically, the Key Cave area is not part of a continuous cave-containing limestone area (the eastern two-thirds of Lauderdale County contains the Fort Payne chert formation of a different geologic age) (Cobb 1985). Key Cave is a relatively large and multi-level cave with over 10,000 feet of mapped passage. Water depths may approach 20 feet in late spring (USFWS 1985). The Tennessee Valley Authority owns the two entrances and has erected a fence to discourage spelunkers. Most of the surrounding land is privately owned. A hydrological study for a proposed solid waste landfill near Key Cave concluded the recharge area for this cave included most or all of the land lying above the elevation of Pickwick Lake in eight sections of T3S, R12W (Aley 1986). Most of this area is in agricultural row-crops. A sewage sludge disposal project developed by the Tennessee Valley Authority and operated intermittently by the City of Florence, Alabama, is probably within this recharge area. The Service

published a proposed rule to reclassify this species from threatened to endangered in the Federal Register (52 FR 46106) on December 4, 1987.

Summary of Comments and Recommendations

In the December 4, 1987, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county and local governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice was published in the Florence Times Daily on December 12, 1987, and in the The Birmingham News on December 13, 1987, which invited general public comment. Three comments were received. One Federal agency and two professional biologists commented in support of the reclassification. There were no comments in opposition.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the Alabama cavefish (*Speoplatyrhinus poulsoni*) should be classified as an endangered species. Procedures found at section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act were followed. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Alabama cavefish (*Speoplatyrhinus poulsoni*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

Groundwater contamination represents a major threat to the Alabama cavefish. Most of the probable recharge area for Key Cave is in agricultural production (Aley 1986). The topography is marked by sinkholes and water-collecting depressions. The Florence Demonstration Project involves land application of municipal sludge from the City of Florence and is likely within the recharge area for Key Cave (Aley 1986). Contaminants from agricultural activities and the sewage sludge application probably enter the Key Cave aquifer since Aley (1986) believes that virtually all the land is

drained through the groundwater system.

B. Overutilization for Commercial, Recreational, Scientific or Educational Purposes

Obligate cave species characteristically live longer and have considerably lower reproductive capacities than related surface species (Poulson 1961). Offers to purchase cavefish have appeared in various publications, and scientific collectors have often taken all the individuals encountered in an area. Reduction of the cavefish population by whatever event could reduce the population below the sustaining level.

C. Disease or Predation

Disease in cavefish has not been studied but it is reasonable to assume they are susceptible to disease outbreaks, especially when water quality deteriorates. Predation may be a threat. Raccoons and epigeal fishes are known to prey upon cavefish, as are cave crayfish. Raccoons may venture great distances into a cave preying upon whatever they catch. Key Cave has a relatively abundant population of cave crayfish.

D. The Inadequacy of Existing Regulatory Mechanisms

The Alabama cavefish was initially listed as threatened under authority of the Endangered Species Act of 1973, as amended. Under this designation, permits may be issued for zoological exhibitions or educational purposes. The present status of this species does not warrant issuance of permits for such purposes.

E. Other Natural or Manmade Factors Affecting its Continued Existence.

Cavefish are very dependent upon the energy source supporting the food supply. In Key Cave, the primary energy source is guano from a maternity colony of the endangered gray bat, *Myotis grisescens*. A decline in this maternity colony would undoubtedly affect the Alabama cavefish. The low reproductive capability and low population are natural limitations to the ability of this species to recover from any adversity.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to make this reclassification final. This reclassification is appropriate because (1) this species is still known from only one cave after extensive surveys of other caves in the vicinity; (2) the population is very small in this one

cave; and (3) the water quality in this cave is probably being degraded by surface activities. These factors and those described earlier place the Alabama cavefish in danger of extinction.

Critical Habitat

This rule does not make any change in the critical habitat as presently designated.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions were initiated by the Service for this species following its listing. The protection required of Federal agencies and the prohibitions against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. Since the Alabama cavefish is already protected under section 7 of the Act by its previous listing as threatened, reclassification to endangered will not affect this requirement. For example, Federal involvement with the Alabama cavefish will probably continue to involve the Environmental Protection Agency in pesticide registration and water contamination.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the

jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful activities. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

References Cited

- Aley, T. 1986. Hydrogeologic Investigations for a Proposed Landfill near Florence, Alabama. A contract study and report for Waste Contractors, Inc. 20 pp.
- Cobb, R.M. 1985. A Reconnaissance of Caves in Lauderdale and Colbert Counties, Alabama, for the Alabama cavefish, *Speoplatyrhinus poulsoni*. A survey and report for the U.S. Fish and Wildlife Service. Jackson, MS. 26 pp. with field data forms.
- Cobb, R.M. An Attempt to Collect Specimens of Cavefish at Three Cave Sites in Northeast Alabama. A survey and report for the U.S. Fish and Wildlife Service. Jackson, MS. 8 pp.
- Cooper, J.E., and R.A. Kuehne. 1974. *Speoplatyrhinus poulsoni*: A New Genus and Species of Subterranean Fish from Alabama. *Copeia* (2):486-493.
- Poulson, T.L. 1961. Cave Adaptation in Amblyopsid Fishes. Ph. D. dissert., Univ. Mich. Ann Arbor. 185 pp.
- U.S. Fish and Wildlife Service. 1985. Revised Recovery Plan for the Alabama Cavefish *Speoplatyrhinus poulsoni* Cooper and Kuehne 1974. 64 pp.

Author

The primary author of this final rule is James Stewart (see "ADDRESSES" section) 601/965-4900 or FTS 490-4900).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

PART 17—[AMENDED]

1. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500 (1986), unless otherwise noted.

§ 17.11 [Amended]

2. Amend § 17.11(h), the list of Endangered and Threatened Wildlife, under "FISHES", by revising the "Status" column for the entry "Cavefish, Alabama * * *" to read "E" instead of "T", and revising the "When listed" column for the same species to read "28, 328".

Dated: September 2, 1988.

Susan Recce,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 88-22147 Filed 9-27-88; 8:45 am]

BILLING CODE 4310-55-M
